INTELLOFAX 6

CLASSIFICATION CONFIDENTIAL CONTROL - U.S. OFFICIALS ONLY
SECURITY INFO - TECH

CENTRAL INTELLIGENCE AGENCY

INFORMATION REPORT

REPORT

CD NO.

COUNTRY USSR (Moscow Oblast)

DATE DISTR. FEB 27 19 50X1

SUBJECT Moscow State Order of Lenin and Order of the Labor Red Banner Transformer Factory i/n Kuibyshev

NO. OF PAGES 15

PLACE ACQUIRED

NO. OF ENCLS. (LISTED BELOW) 50X1-HUM

DATE OF INFO.

SUPPLEMENT TO REPORT NO.

THIS IS UNEVALUATED INFORMATION

50X1-HUM

1. The Moscow State Order of Lenin and Order of the Labor Red Banner Transformer Factory i/n Kuibyshev (Gosudarstvenny Ordena Lenina i Ordena Trudovogo Krasnogo Znameni Moskovski Transformatorny Zavod imeni Kuibysheva) is located at 21 Elektrozavodskaya Ulitsa, Stalinski Raion, Moscow.

2. Communications include the Metro-Elektrozavodskaya Station, Streetcars Nos. 14 and 43, and the Kazan Railway. Since the beginning of 1950 a new station called Elektrozavodskaya has been opened on the Kazan Railway. A branch line runs from the Kazan Railway to the factory.

3. The factory is at present under the Ministry of Electrical Industry and is directly controlled by the Chief Directorate of the Electrical Engineering Industry of the ministry (Glavnoye Upravleniye Elektromashinnoi Promyshlennosti or Glavelektromash). The ministry and the chief directorate have their headquarters at 7 Kitaiski Proyezd, Moscow.

History

4. The factory can be said to date from 1927 when the enormous Elektrozavod (Electric Factory) was formed. This factory was instructed by Lenin's directives to provide all the necessary electrical material for the electrification of the country. The Elektrozavod was divided into several shops, such as the transformer shop, the electric lamp shop, motor and tractor electrical equipment shop, glass shop, and shop for the manufacture of machinery for electric lamp production. The initial production of the factory also included static condensers, radio tubes, and electrical domestic appliances.

5. With the development of the factory and increased output, defects in production became apparent. Elektrozavod was split up and shops converted into factories. The electric lamp shop, the transformer shop, and the motor and tractor electrical equipment shop were converted into factories and are located together at 21 and 23 Elektrozavodskaya Ulitsa. The glass shop became the Glass Factory i/n Ukhanov with premises at 29 Smirnovskaya Ulitsa, and the shop for the manufacture of machinery for electric lamp production became a factory with premises at 40 Bolshaya Semenovskaya Ulitsa.

CLASSIFICATION CONFIDENTIAL CONTROL-U.S. OFFICIALS ONLY

STATE	X	NAVY	X	NSA		DISTRIBUTION							
ARMY	X	AIR	X	FBI	Document No. 0004			ORR-DV	X				

No Change in Class. ☐
Class. Changed To: TS S C
Auth: [illegible]
Date: JUL 26 1978

50X1

6. All these factories were brought into the Electro-Technical Combine under control of the All-Union Electrical Association (Vse-Soyuznoye Elektrotekhnicheskoye Obedineniye or VEO) of the Chief Directorate for Power Industry (Glavenergoprom).

7. The transformer factory was called Motez and produced electric furnaces in addition to transformers.

8. As production increased, the factories became independent enterprises under the control of chief directorates and in some cases under the control of ministries. The transformer factory, for instance, comes under the Ministry of Electrical Industry and the electric lamp factory under the Ministry of Telecommunications Industry.

9. The name Elektrozavod is still used both by the press and in general conversation when referring to the electric lamp factory, the transformer factory, and the motor and tractor electrical equipment factory. These three factories, as previously stated, are located together, and they occupy a whole street block.

10. Before the war the transformer factory came under the People's Commissariat for Electrical Industry. The factory built large transformer stations for DneproGES (Dnepr Electric Power Station) and for the Svirstroi (Svir Electric Power Station Construction). The factory was awarded the Order of Lenin for fulfilling successfully the program laid down in Stalin's first Five-Year Plan.

11. The factory was partially evacuated during the war but at the beginning of 1942 returned to Moscow to its old site and resumed its former production under the People's Commissariat for Electrical Industry. The factory had ceased to produce electric furnaces before the war. As a wartime measure three engineering shops were employed on the production of ammunition under the People's Commissariat for Ammunition.

12. Since the end of the war the factory has continued to specialize in transformer production. In 1946 the factory started producing increased types of higher rated transformers; during the war no large high tension tapped transformers with switching arrangements were used owing to the lack of switches (pereklyuchatel pod nagruzkoi). Special switch gear for tapped transformers are now being produced in the factory, and a switch gear shop (tsekh pereklyuchatelei) has been set up in the factory. All articles produced by the factory are stamped MTZ (Moskovski Transformatorny Zavod - Moscow Transformer Factory).

Present Production

13. The factory now produces over 100 types of transformers which include:

a. Three-phase oil-cooled double-coil (dvukhobmotochny) power transformers, with nominal rating from 10 kva to 60,000 kva. Details of these transformers are as follows:

1) Type: TM-10/6. The letter T stands for trekhfazny (three phase), M stands for maslyanoye (oil-cooled); the figure 10 denotes nominal rating 10 kva, and the figure 6 denotes voltage on winding 6 kv.

Weight: Weight of oil 130 kgs, weight of removable part 125 kgs, and weight of housing with armature 90 kgs, making a total weight of 345 kgs.

Dimensions: Length 920 mm, width 780 mm, height to cover 815 mm and to highest point 1,110 mm. Overall dimensions belong to the first class (gabarit pervogo klassa).

2) Type: TM-20/6.

Weight: Weight of oil 125 kgs, weight of removable part 150 kgs, and weight of housing with armature 90 kgs, making a total weight of 365 kgs.

Dimensions: Length 920 mm, width 780 mm, height to cover 815 mm, and to highest point 1,110 mm. Overall dimensions belong to the first class.

3) Type: TM-20/10.

Weight: Weight of oil 195 kgs, weight of removable part 260 kgs, and weight of housing with armature 80 kgs, making a total weight of 535 kgs.

Dimensions: Length 1,200 mm, width 600 mm, height to cover 960 mm and to highest point 1,385 mm. Overall dimensions belong to the first class.

4) Type: TM-50/6.

Weight: Weight of oil 240 kgs, weight of removable part 260 kgs, and weight of housing with armature 140 kgs, making a total weight of 640 kgs.

Dimensions: Length 1,050 mm, width 800 mm, height to cover 1,195 mm and to highest point 1,490 mm. Overall dimensions belong to the first class.

5) Type: TM-50/10.

Weight: Weight of oil 265 kgs, weight of removable part 340 kgs, and weight of housing with armature 95 kgs, making a total weight of 700 kgs.

Dimensions: Length 1,270 mm, width 800 mm, height to cover 1,065 mm and to highest point 1,490 mm. Overall dimensions belong to the first class.

6) Type: TM-100/6.

Weight: Weight of oil 280 kgs, weight of removable part 450 kgs, and weight of housing with armature 160 kgs, making a total weight of 890 kgs.

Dimensions: Length 1,170 mm, width 820 mm, height to cover 1,055 mm and to highest point 1,480 mm. Overall dimensions belong to the first class.

7) Type: TM-100/10.

Weight: Weight of oil 345 kgs, weight of removable part 475 kgs, and weight of housing with armature 180 kgs, making a total weight of 1,000 kgs.

Dimensions: Length 1,300 mm, width 870 mm, height to cover 1,130 mm and to highest point 1,555 mm. Overall dimensions belong to the first class.

8) Type: TM-100/35.

Weight: Weight of oil 600 kgs, weight of removable part 640 kgs, and weight of housing with armature 260 kgs, making a total weight of 1,500 kgs.

Dimensions: Length 1,400 mm, width 1,085 mm, height to cover 1,245 mm and to highest point 1,800 mm. Overall dimensions belong to the first class.

9) Type: TM-180/6.

Weight: Weight of oil 345 kgs, weight of removable part 605 kgs, and weight of housing with armature 330 kgs, making a total weight of 1,280 kgs.

Dimensions: Length 1,620 mm, width 1,010 mm, height to cover 1,055 mm and to highest point 1,490 mm. Overall dimensions belong to the second class.

10) Type: TM-180/10.

Weight: Weight of oil 430 kgs, weight of removable part 660 kgs, and weight of housing with armature 270 kgs, making a total weight of 1,360 kgs.

Dimensions: Length 1,550 mm, width 380 mm, height to cover 1,205 mm and to highest point 1,670 mm. Overall dimensions belong to the second class.

11) Type: TM-180/35.

Weight: Weight of oil 790 kgs, weight of removable part 920 kgs, and weight of housing with armature 390 kgs, making a total weight of 2,100 kgs.

Dimensions: Length 2,310 mm, width 1,020 mm, height to cover 1,375 mm and to highest point 2,065 mm. Overall dimensions belong to the second class.

12) Type: TM-320/6.

Weight: Weight of oil 480 kgs, weight of removable part 880 kgs, and weight of housing with armature 370 kgs, making a total weight of 1,730 kgs.

Dimensions: Length 1,830 mm, width 1,170 mm, height to cover 1,205 mm and to highest point 1,670 mm. Overall dimensions belong to the second class.

13) Type: TM-320/10.

Weight: Weight of oil 520 kgs, weight of removable part 880 kgs, and weight of housing with armature 380 kgs, making a total weight of 1,780 kgs.

Dimensions: Length 1,680 mm, width 1,020 mm, height to cover 1,295 mm and to highest point 1,760 mm. Overall dimensions belong to the second class.

14) Type: TM-320/35.

Weight: Weight of oil 970 kgs, weight of removable part 1,230 kgs, and weight of housing with armature 530 kgs, making a total weight of 2,730 kgs.

Dimensions: Length 2,260 mm, width 1,350 mm, height to cover 1,450 mm and to highest point 2,140 mm. Overall dimensions belong to the second class.

15) Type: TM-560/10.

Weight: Weight of oil 1,000 kgs, weight of removable part 1,460 kgs, and weight of housing with armature 580 kgs, making a total weight of 3,040 kgs.

Dimensions: Length 2,420 mm, width 1,360 mm, height to cover 1,450 mm and to highest point 2,210 mm. Overall dimensions belong to the second class.

16) Type: TM-560/35.

Weight: Weight of oil 1,310 kgs, weight of removable part 1,900 kgs, and weight of housing with armature 720 kgs, making a total weight of 3,930 kgs.

Dimensions: Length 2,475 mm, width 1,240 mm, height to cover 1,670 mm and to highest point 2,450 mm. Overall dimensions belong to the second class.

17) Type: TM-750/10.

Weight: Weight of oil 1,615 kgs, weight of removable part 2,060 kgs, and weight of housing with armature 1,015 kgs, making a total weight of 4690 kgs.

Dimensions: Length 2,560 mm, width 1,490 mm, height to cover 1,940 mm and to highest point 2,600 mm. Overall dimensions belong to the third class.

18) Type: TM-1000/10.

Weight: Weight of oil 1,850 kgs, weight of removable part 2,380 kgs, and weight of housing with armature 1,230 kgs, making a total weight of 5,460 kgs.

Dimensions: Length 2,560 mm, width 1,620 mm, height to cover 2,030 mm, and to highest point 3,030 mm. Overall dimensions belong to the third class.

19) Type: TM-1000/35.

Weight: Weight of oil 2,170 kgs, weight of removable part 2,350 kgs, and weight of housing with armature 1,360 kgs, making a total weight of 6,380 kgs.

Dimensions: Length 2,790 mm, width 1,680 mm, height to cover 2,030 mm and to highest point 3055 mm. Overall dimensions belong to the third class.

20) Type: TM-1300/10.

Weight: Weight of oil 3,190 kgs, weight of removable part 3,680 kgs, and weight of housing with armature 2,040 kgs, making a total weight of 8,910 kgs.

Dimensions: Length 2,940 mm, width 1,750 mm, height to cover 2,425 mm and to highest point 3,450 mm. Overall dimensions belong to the 3rd class.

21) Type: TM-1800/35.

Weight: Weight of oil 3,130 kgs, weight of removable part 3,900 kgs, and weight of housing with armature 2,040 kgs, making a total weight of 9,070 kgs.

Dimensions: Length 2,940 mm, width 1,750 mm, height to cover 2,425 mm and to highest point 3,450 mm. Overall dimensions belong to the third class.

22) Type: TM-3200/10.

Weight: Weight of oil 5,070 kgs, weight of removable part 5,340 kgs, and weight of housing with armature 3,290 kgs, making a total weight of 13,700 kgs.

Dimensions: Length 4,150 mm, width 2,500 mm, height to cover 2,835 mm and to highest point 4,000 mm. Overall dimensions belong to the third class.

23) Type: TM-3200/35.

Weight: Weight of oil 4,970 kgs, weight of removable part 5,540 kgs, and weight of housing with armature 3,290 kgs, making a total weight of 13,800 kgs.

Dimensions: Length 4,150 mm, width 2,500 mm, height to cover 2,835 mm and to highest point 4,000 mm. Overall dimensions belong to the third class.

24) Type: TM-5600/10.

Weight: Weight of oil 6,370 kgs, weight of removable part 8,050 kgs, and weight of housing with armature 5,190 kgs, making a total weight of 19,610 kgs.

Dimensions: Length 4,250 mm, width 3,700 mm, height to cover 2,835 mm and to highest point 4,000 mm. Overall dimensions belong to the third class.

25) Type: TM-5600/35.

Weight: Weight of oil 6,270 kgs, weight of removable part 8,400 kgs, and weight of housing with armature 5,190 kgs, making a total weight of 19,860 kgs.

Dimensions: Length 4,250 mm, width 3,700 mm, height to cover 2,835 mm and to highest point 4,000 mm. Overall dimensions belong to the third class.

26) Type: TMG-5600/110.

Weight: Weight of oil 13,300 kgs, weight of removable part 11,500 kgs, and weight of housing with armature 10,500, making a total weight of 35,300 kgs.

Dimensions: Length 5,000 mm, width 4,390 mm, height to cover 2,815 mm and to highest point 4,690 mm. Overall dimensions belong to the fifth class.

27) Type: TM-7500/35.

Weight: Weight of oil 6,600 kgs, weight of removable part 9,300 kgs, and weight of housing with armature 6,900 kgs, making a total weight of 22,800 kgs.

Dimensions: Length 5,050 mm, width 3,740 mm, height to cover 2,995 mm and to highest point 4,190 mm. Overall dimensions belong to the fourth class.

28) Type: TMG-7500/110.

Weight: Weight of oil 15,600 kgs, weight of removable part 13,200 kgs, and weight of housing with armature 11,700 kgs, making a total weight of 40,500 kgs.

Dimensions: Length 5,500 mm, width 4,400 mm, height to cover 3,030 mm and to highest point 4,955 mm. Overall dimensions belong to the fifth class.

29) Type: TD-10000/35.

Weight: Weight of oil 6,000 kgs, weight of removable part 11,800 kgs, and weight of housing with armature 7,200 kgs, making a total weight of 25,000 kgs.

Dimensions: Length 3,800 mm, width 3,800 mm, height to cover 3,040 mm and to highest point 4,235 mm. Overall dimensions belong to the fourth class.

30) Type: TDG-10000/110.

Weight: Weight of oil 15,200 kgs, weight of removable part 14,300 kgs, and weight of housing with armature 10,500 kgs, making a total weight of 40,000 kgs.

Dimensions: Length 5,360 mm, width 4,400 mm, height to cover 3,230 mm and to highest point 5,105 mm. Overall dimensions belong to the fifth class.

31) Type: TD-15000/35.

Weight: Weight of oil 7,400 kgs, weight of removable part 15,000 kgs, and weight of housing with armature 8,700 kgs, making a total weight of 31,100 kgs.

Dimensions: Length 4,270 mm, width 3,900 mm, height to cover 3,235 mm and to highest point 4,615 mm. Overall dimensions belong to the fourth class.

32) Type: TDG-15000/110.

Weight: Weight of oil 16,500 kgs, weight of removable part 21,300 kgs and weight of housing with armature 12,500 kgs, making a total weight of 50,300 kgs.

Dimensions: Length 5,450 mm, width 4,450 mm, height to cover 3,380 mm and to highest point 5,225 mm. Overall dimensions belong to the fifth class.

33) Type: TD-20000/35.

Weight: Weight of oil 8,300 kgs, weight of removable part 19,700 kgs, and weight of housing with armature 9,000 kgs, making a total weight of 37,000 kgs.

Dimensions: Length 4,470 mm, width 3,900 mm, height to cover 3,435 mm and to highest point 5,030 mm. Overall dimensions belong to the fourth class.

34) Type: TDG-20000/110.

Weight: Weight of oil 17,500 kgs, weight of removable part 26,700 kgs, and weight of housing with armature 14,800 kgs, making a total weight of 59,000 kgs.

Dimensions: Length 5,600 mm, width 4,450 mm, height to cover 3,515 mm and to highest point 5,360 mm. Overall dimensions belong to the fifth class.

35) Type: TD-31500/35.

Weight: Weight of oil 12,400 kgs, weight of removable part 27,100 kgs, and weight of housing with armature 14,500 kgs, making a total weight of 54,000 kgs.

Dimensions: Length 4,650 mm, width 4,140 mm, height to cover 3,905 mm and to highest point 5,500 mm. Overall dimensions belong to the fourth class.

36) Type: TDG-31500/110.

Weight: Weight of oil 21,200 kgs, weight of removable part 32,400 kgs, and weight of housing with armature 16,400 kgs, making a total weight of 70,000 kgs.

Dimensions: Length 6,350 mm, width 4,570 mm, height to cover 4,155 mm and to highest point 5,945 mm. Overall dimensions belong to the fifth class.

37) Type: TDG-40500/110.

Weight: Weight of oil 25,000 kgs, weight of removable part 42,500 kgs, and weight of housing with armature 22,500 kgs, making a total weight of 90,000 kgs.

Dimensions: Length 6,550 mm, width 4,670 mm, height to cover 4,400 mm and to highest point 6,200 mm. Overall dimensions belong to the fifth class.

38) Type: 60000/110.

Weight: Weight of oil 31,000 kgs, weight of removable part 57,700 kgs, and weight of housing with armature 27,300 kgs, making a total weight of 116,000 kgs.

Dimensions: Length 7,300 mm, width 4,750 mm, height to cover 5,100 mm and to highest point 7,200 mm. Overall dimensions belong to the fifth class.

b. Single-phase double coil power transformers with nominal rating up to 40,000 kva. Details are as follows:

1) Type: ODG-10500/110. The letter O stands for odnofazny (single phase).

Weight: Weight of oil 9,500 kgs, weight of removable part 13,800 kgs, and weight of housing with armature 8,000 kgs, making a total weight of 31,300 kgs.

Dimensions: Length 4,000 mm, width 4,400 mm, height to cover 3,270 mm and to highest point 5,150 mm. Overall dimensions belong to the fifth class.

2) Type: ODG-13500/110

Weight: Weight of oil 11,000 kgs, weight of removable part 16,000 kgs, and weight of housing with armature 9,500 kgs, making a total weight of 36,500 kgs.

Dimensions: Length 4,200 mm, width 4,500 mm, height to cover 3,570 mm and to highest point 5,450 mm. Overall dimensions belong to the fifth class.

3) Type: ODG-20000/110.

Weight: Weight of oil 13,600 kgs, weight of removable part 22,000 kgs, and weight of housing with armature 10,000 kgs, making a total weight of 45,600 kgs.

Dimensions: Length 5,300 mm, width 4,550 mm, height to cover 3,825 mm and to highest point 5,700 mm. Overall dimensions belong to the fifth class.

4) Type: ODG-40000/110.

Weight: Weight of oil 19,500 kgs, weight of removable part 37,000 kgs, and weight of housing with armature 19,500 kgs, making a total weight of 76,000 kgs.

Dimensions: Length 6,500 mm, width 4,450 mm, height to cover 4,550 mm and to highest point 6,700 mm. Overal dimensions belong to the fifth class.

5) Two single-phase double-wound transformers type ODG-30000/110 are under construction.

6) Transformers with ratings of 10,000 kva and higher are cooled by means of fans. Two fans with blades with a diameter of 350 mm, driven by three-phase electric motors type TGZ-41-F of 150 vt, with 1,400 rpm are installed for this purpose in each radiator.

c. Three-phase triple-coil (trekhobmotochny) power transformers with ratings from 5,600 kva to 60,000 kva. Details are as follows:

1) Type: TMTG 5600/100. The first T stands for trekhfaznv (three-phase), the M stands for maslyanoye (oil-cooled), the second T denotes the number of windings, tri obmotki (three windings), G stands for grozouporny (lightning-protected), the numerator 5600 denotes the nominal rating kva, and the denominator 110 denotes the tension in kv.

Weight: Weight of oil 17,900 kgs, weight of removable part 13,700 kgs, and weight of housing with armature 11,400 kgs, making a total weight of 43,000 kgs.

Dimensions: Length 5,240 mm, width 4,540 mm, height to cover 3,200 mm and to highest point 5,080 mm. Overall dimensions belong to the fifth class.

2) Type: TMTG-7500/110.

Weight: Weight of oil 18,100 kgs, weight of removable part 16,500 kgs, and weight of housing with armature 14,000 kgs, making a total weight of 48,600 kgs.

Dimensions: Length 5,770 mm, width 4,590 mm, height to cover 3,370 mm and to highest point 5,210 mm. Overall dimensions belong to the fifth class.

3) Type: TDTG-10000/110. The second letter, D, denotes forced water cooling.

Weight: Weight of oil 17,900 kgs, weight of removable part 20,000 kgs, and weight of housing with armature 10,600 kgs, making a total weight of 48,500 kgs.

Dimensions: Length 5,440 mm, width 4,570 mm, height to cover 3,350 and to highest point 5,205 mm. Overall dimensions belong to the fifth class.

4) Type: TDTG-15000/110.

Weight: Weight of oil 20,700 kgs, weight of removable part 28,100 kgs, and weight of housing with armature 12,000 kgs making a total weight of 60,800 kgs.

Dimensions: Length 5,885 mm, width 4,700 mm, height to cover 3,515 mm and to highest point 5,400 mm. Overall dimensions belong to the fifth class.

5) Type: TDTG-20000/110.

Weight: Weight of oil 22,500 kgs, weight of removable part 32,000 kgs, and weight of housing with armature 16,500 kgs, making a total weight of 71,000 kgs.

Dimensions: Length 6,000 mm, width 4,700 mm, height to cover 3,700 mm and to highest point 5,555 mm. Overall dimensions belong to the fifth class.

6) Type: TDTG-31500/110.

Weight: Weight of oil 28,900 kgs, weight of removable part 40,100 kgs, and weight of housing with armature 23,000 kgs, making a total weight of 92,000 kgs.

Dimensions: Length 6,500 mm, width 4,850 mm, height to cover 4,040 mm and to highest point 6,075 mm. Overall dimensions belong to the fifth class.

7) Type: TDTG-40500/110.

Weight: Weight of oil 33,500 kgs, weight of removable part 48,000 kgs, and weight of housing with armature 28,000 kgs, making a total weight of 109,500 kgs.

Dimensions: Length 6,800 mm, width 4,850 mm, height to cover 4,340 mm and to highest point 6,515 mm. Overall dimensions belong to the fifth class.

8) Type: TDTG-60000/110.

Weight: Weight of oil 39,000 kgs, weight of removable part 67,000 kgs, and weight of housing with armature 38,000 kgs, making a total weight of 144,000 kgs.

Dimensions: Length 8,120 mm, width 5,130 mm, height to cover 5,355 mm and to highest point 7,665 mm. Overall dimensions belong to the fifth class.

d. Single-phase triple-coil power transformers with ratings up to 40,000 kva. The mostly widely used of these transformers are given below:

1) Type: ODTG-10500/110. The letter O denotes odnofazny (single-phase).

Weight: Weight of oil 12,200 kgs, weight of removable part 15,700 kgs, and weight of housing with armature 8,800 kgs, making a total weight of 36,700 kgs.

Dimensions: Length 4,020 mm, width 4,590 mm, height to cover 3,540 mm and to highest point 5,400 mm. Overall dimensions belong to the fifth class.

2) Type: ODTG-13500/110.

Weight: Weight of oil 13,700 kgs, weight of removable part 20,900 kgs, and weight of housing with armature 10,400 kgs, making a total weight of 45,000 kgs.

Dimensions: Length 4,300 mm, width 4,690 mm, height to cover 3,585 mm, and to highest point 5,065 mm. Overall dimensions belong to the fifth class.

3) Type: ODTG-20000/110.

Weight: Weight of oil 16,600 kgs, weight of removable part 28,000 kgs, and weight of housing with armature 11,400 kgs, making a total weight of 56,000 kgs.

Dimensions: Length 4,800 mm, width 4,790 mm, height to cover 3,865 mm and to highest point 5,745 mm. Overall dimensions belong to the fifth class.

4) Type: ODTG-40000/110.

Weight: Weight of oil 23,400 kgs, weight of removable part 46,000 kgs, and weight of housing with armature 22,000 kgs, making a total weight of 91,400 kgs.

Dimensions: Length 6,700 mm, width 4,700 mm, height to cover 4,720 mm and to highest point 6,970 mm. Overall dimensions belong to the fifth class.

e. Autotransformers. These include type AOS-200/5 which has been designed for Ajax type electric induction furnaces. Rating 200 kva, length 900 mm, width 600 mm, height 1,200 mm, and total weight 650 kgs.

f. Measuring Transformers (Izmeritelny transformator). There are 40 types, of which the most widely used are given below:

1) Type: NOS-0.5. The letter N stands for napryazheniye (voltage), the letter O for odnofazny (single-phase), the letter S stands for sukhoi (dry), and the figure 0.5 denotes the maximum nominal voltage in kv for which this type of transformer is designed. Maximum rating 200 va, resistance of lower tension winding (at 20°C) 0.94 ohm, resistance of high tension winding 23.2 ohms. Air-cooled. Total weight 3 kgs. Three different models of this type of transformer are produced.

2) Type: NTS-0.5. N stands for napryazheniye (voltage), T for trekhfazny (three-phase), and S for sukhoi (dry).

Maximum rating 400 va. Air-cooled. Produced in two models.

3) Type: NTSI-0.5 (Transformator napryazheniya, trekhfazny, sukho pyatisterzhnevy, trekhobmotochny - three-phase dry five-cored triple-wound voltage transformer).

Maximum rating 340 va. Air-cooled. Produced in two models.

4) Type: NOS-3.

Maximum rating 240 va. Resistance of windings: low tension winding 0.76 ohm, high tension winding 485 ohm, air-cooled. Total weight 12 kgs. Produced in two models.

5) Type: NOM-6 (Transformator napryazheniya, odnofazny, maslyany - single-phase, oil-cooled transformer).

Maximum rating 240 va. Resistance of windings: 0.76 ohm and 233 ohm respectively. Total weight 23 kgs. Produced in four models.

6) Type: NTMK-6 (transformator napryazheniya, trekhfazny maslyany, trekhsterzhnevoi, kompensiruyushchei obmotkoi - three-phase, oil-cooled, three-cored voltage transformer with compensating winding).

Maximum rating 400 va. Resistance of windings 0.244 ohm and 297 ohm respectively, oil-cooled. Total weight 43 kgs. Produced in two models.

7) Type: NTMI-6 (Transformator napryazheniya, trekhfazny, maslyany, pyatisterzhnevy, trekhobmotochny - three-phase oil-cooled, five-cored triple-wound voltage transformer).

Maximum rating 400 va. Oil-cooled. Total weight 89 kgs. Produced in two models.

8) Type: NTMK-10.

Maximum rating 960 va. Oil-cooled. Total weight 117 kgs, of which 37 kgs represents the weight of oil.

9) Type: NOM-10.

Maximum rating 640 va. Resistance of windings: 0.421 ohm and 2640 ohm respectively. Oil-cooled. Total weight 91 kgs of which 36 kgs represent the weight of oil.

10) Type: NTMI-10.

Maximum rating 960 va. Oil-cooled. Total weight 168 kgs of which 46 kgs represent the weight of oil.

11) Type: NOM-35.

Maximum rating 1200 va. Resistance of windings 0.1 ohm and 9,500 ohm respectively. Total weight 209 kgs of which 74 kgs represent the weight of oil.

12) Type: NKF-110 (Transformator napryazheniya, odnofazny kaskadny, v farforovom kozhukhe - single-phase, cascade voltage transformer in porcelain case).

Maximum rating 2,000 va. Resistance of windings 0.0135 ohm and 1,530 ohm respectively. Oil-cooled. Full weight 1,360 kgs of which 310 kgs represent the weight of oil.

13) Type: NKF-220.

Maximum rating 2,000 va. Resistance of windings 0.0135 ohm and 3,060 ohm respectively. Oil-cooled. Full weight 2,650 kgs of which 660 kgs represent the weight of oil.

g. Special dry type transformers with ratings from 100 to 560 kva. Production was commenced in the second half of 1949, when the first experimental types were built. Candidate of Technical Sciences L. M. Shnitser and L. B. Olshanski were mainly responsible for the design. Glass insulation with silico-organic varnish was employed. Dry transformers are installed at the transformer substations of Moscow skyscrapers. In 1950, the factory started producing complete transformer substations; a special assembly shop was erected in the factory for this purpose.

h. Current transformers. Current transformers of several types are produced to comply with occasional individual orders. The production of current transformers on a large scale is concentrated at other factories, such as the Elektroapparat Factory in Leningrad.

i. Earth and arc-quenching coils (zazemlyayushchaya dugogasyashchaya katushka). About 20 different types are produced. Description of the most widely used types are given below:

1) Type ZROM-175/6 for nominal network voltage 6 kv. Nominal current (limits) 25-50 amperes. Weight of coil with oil 1,000 kgs, of which 345 kgs represent the weight of oil.

2) Type ZROM-350/6 for nominal network voltage 6 kv. Nominal current (limits) 50-100 amperes. Weight of coil with oil 1555 kgs, of which 505 kgs represent the weight of oil.

3) Type ZROM-700/6 for nominal network voltage 6 kv. Nominal current (limits) 100-200 amperes. Weight of coil with oil 3,175 kgs. Weight of oil 1,230 kgs.

4) Type ZROM-1400/6 for nominal network voltage 6 kv. Nominal current (limits) 200-400 amperes. Weight of coil with oil 4,235 kgs. Weight of oil 1,505 kgs.

5) Type ZROM-300/10 for nominal network voltage 10 kv . Nominal current (limits) 25-50 amperes. Weight of coil with oil 1,555 kgs. Weight of oil 505 kgs.

6) Type ZROM-600/10 for nominal network voltage 10 kv. Nominal current (limits) 50-100 amperes. Weight of coil with oil 3,175 kgs. Weight of oil 1,230 kgs.

7) Type ZROM-1200/10 for nominal network voltage 10 kv . Nominal current (limits) 100-200 amperes. Weight of coil with oil 4,215 kgs. Weight of oil 1,515 kgs.

8) Type ZROM-275/35 for nominal network voltage 35 kv. Nominal current (limits) 6.2 - 12.5 amperes. Weight of coil with oil 1,900 kgs. Weight of oil 820 kgs.

9) Type ZROM-550/35 for nominal network voltage 35 kv. Nominal current (limits) 12-25 amperes. Weight of coil with oil 2,750 kgs. Weight of oil 1,000 kgs.

10) Type ZROM-1100/35 for nominal network voltage 35 kv. Nominal current (limits) 25-50 amperes. Weight of coil with oil 4,250 kgs. Weight of oil 1,455 kgs.

11) Type ZROM-2200/35 for nominal network voltage 35 kv. Nominal current (limits) 50-100 amperes.

j. Current-limiting oil reactors. The factory is producing several types of oil reactors, which include the RTMT-35-200-6 type. The particulars of the RTMT-35-200-6 reactor are as follows:

1. Nominal tension 35 kv; nominal current rating 200 amps; reactance percentage 6%. All three phases of the reactor are contained in one case. Weight of reactor including 5,540 kgs of oil is 11,000 kgs.

2. Overall height of reactor 4,590 mm, length 2,360 mm, width 2,680 mm.

3. Height from base to hook for lifting removable part of reactor is 7,440 mm.

k. Pyranol transformers. The factory is producing several types of transformers filled with pyranol instead of oil. Pyranol is an insulating liquid of light-yellow color, chemically stable and noninflammable. It easily mixes with mineral oil.

l. The factory also produces a large number of spare parts for the agricultural industry. One of the chief articles of production is tractor shafts.

Actual Output

14. The value of articles produced by the factory in 1950 reached 220-230 million rubles.

15. In view of the great variety of articles manufactured informant was unable to give an estimate of the number of units produced.

16. According to a director's statement at a meeting in connection with the Five Year Program the factory had more than doubled the prewar level of transformer production in terms of kva.

Personnel

17. The first director of Elektrozavod was Bulganin, who is now a Marshal of the Soviet Union.

18. The present director is Aleshin, and his chief technical assistants include Engineers Nazarevski, Chertkov, Mitrofanov, Sapozhnikov, and Belayev.

19. The factory employs about 6,000 workers who work in three shifts.

Customers

20. After the war, very heavy transformers of the fourth and fifth class overall dimensions (4 gabarit, 5 gabarit) of 20,000 kva, 31,500 kva, 40,000 kva, 60,000 kva capacity were sent to the following places:

Stalingrad: three powerful transformers.
Dneproges (Dnepr Power Station): several transformers.
Shterovka Electric Power Station: two transformers.
Stalinogorsk GES Power Station near Moscow: several transformers.
Metallurgical Works at Voroshilovgrad.
Metallurgical Works at Krivoi Rog.
Shcherbakov GES.
Kiev GES.
Azovstal Metallurgical Works at Zhdanov.
Kazakhstan SSR.
Metallurgical works in the Donetz Basin.
Electric power stations in Siberia and the Far East.

21. A large number of small size transformers (maly gabarit) was sent to railways for automatic block signalling. In 1946, the factory produced 7,000 transformers of this kind.

22. A great number of small size transformers were produced for the oil industry.

23. Many transformers were sent to mobile substations of the oil industry. These included transformers up to 1,600 kva at 35 kv with gas protection, contact thermometer and relay; 320 kva transformers at 6,000 volts for mobile substations for oil-well drilling, and also 135-180 kva at 6,000 volts for mobile substations.

24. Six very heavy transformers of the fourth and fifth class overall dimensions were sent to oil refineries.

25. The factory is continuously executing large and small orders for transformers for the Moscow Metro.

26. The factory also has continuing orders for small transformers for electric power stations under construction at collective farms (kolkhoz) near Moscow. These orders are for batches of 20, 50, and 100 transformers with a rating of 20 kva (TM-20/6).

27. Many so-called mine transformers are being sent to the coal industry.

28. At the end of 1950, the factory started to supply the new GES (electric power station) under construction at Kuibyshev with transformers. Five transformers of a total rating of approximately 130,000 kva were sent.

Reorganization and General State of Factory

29. During 1948-50 the factory was largely reorganized. Several small shops were merged into one. Three engineering shops became one large engineering shop, and the number of winding shops was reduced to two, as was also the case with the welding shops. The magnet-drive shop (magnitoprivodny tsekh), the plating shop (galvanicheski tsekh), and the stamping shop (shtampovochny tsekh) were reorganized. The foundry and toolmakers shop were expanded. New shops were set up including a shop for small transformers (tsekh melkikh transformatorov), shop producing substations for large building blocks (tsekh transformatornykh podstantsii dlya vysotnykh zdanii), and the shop producing switch gear for tapped transformers (tsekh pereklyuchatchei). The testing platform and central laboratory were moved to new sites. The factory now has 13 shops.

30. Since the end of 1950 the Party committee and factory administration have carried out large-scale sustained propaganda to raise the factory to the Stakhanov category. Penalties have been introduced. Eight shops have been awarded the title Stakhanov, and three more should obtain this title in January 1951.